11. LIMITED ACTION

Limited action comprising institutional controls will be implemented at nine sites within WAG 5 because residual contamination precludes unrestricted exposure. In addition, six of the seven sites addressed by the remedial actions discussed in Sections 8, 9, and 10 will be controlled until remediation is implemented, then evaluated for post-remediation controls. The 15 sites that will be managed initially through institutional controls and the future development of a WAG 5 institutional control plan are discussed below.

11.1 Institutional Controls in Waste Area Group 5

Institutional controls will be maintained by DOE at any CERCLA site at the INEEL where risk is greater than 1E-04 for a hypothetical current residential scenario. However, baseline risk assessments at the INEEL typically do not estimate risk for a current residential scenario (LMITCO 1995). For purposes of evaluating the need for institutional controls at WAG 5, the potential for current residential risk in excess of 1E-04 was inferred from the risk assessment for the 100-year future residential scenario. Any site with 100-year future residential scenario with an estimated risk of 1E-06 or greater was assumed to pose a current residential risk of 1E-04. Institutional controls will remain in place at each of these nine sites for at least 100 years or until the site is released for unrestricted use in a 5-year review.

Three of the nine sites, ARA-06, ARA-24, and PBF-13, are landfill sites. Risks estimates for the 100-year future residential scenario for residual soil contamination at the other six sites are less than 1E-04, but current risks for these sites may be greater than 1E-06 for a residential scenario.

Institutional controls will be maintained in the interim until the selected remedy has been implemented at six of the seven sites identified for remediation in this ROD. Interim controls are not required for PBF-16, a site identified for remediation based on ecological risk from exposure to mercury. For the other six sites (i.e., ARA-01, ARA-02, ARA-12, ARA-16, ARA-23, and ARA-25), existing controls such as access restrictions and signs will be maintained until remediation is complete. Long-term institutional control requirements for these sites will be determined based on the analysis of post-remediation confirmation samples.

In accordance with the INEEL Land Use Plan (DOE-ID 1996a), DOE will provide institutional controls for sites subject to land-use restrictions over the next 100 years unless a 5-year review concludes that unrestricted land use is allowable. After 100 years, DOE may no longer manage INEEL activities and controls will take the form of land-use restrictions. Though land use after 100 years is highly uncertain, it is likely that industrial applications will continue at the INEEL and WAG 5. The Hall Amendment of the National Defense Authorization Act of 1994 (Public Law 103–160) requires concurrence from EPA on the lease of any National Priorities List sites during the period of DOE control, and CERCLA [42 USC 9620 § 120(h)] requires notification to the state of a lease involving contamination. When DOE no longer manages INEEL activities and controls are needed, CERCLA [42 USC 9620 § 120(h)] requires that DOE indicate the presence of contamination and any restrictions in property transfer documentation.

Institutional controls will be applied initially to 15 of the 55 sites in WAG 5 and will not be required for the other 40 sites. A summary of the analysis conducted to identify no action and institutional control sites is presented in Table 32. A preliminary description of the controls that will be applied is provided in Table 33, and the estimated costs for maintaining institutional controls for 100 years are reported in Table 34. An institutional control plan for WAG 5 will be prepared in conjunction with the development of RD/RA documents to identify the specific measures that will be

Table 32. No action sites and sites requiring institutional controls in Waste Area Group 5.

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
ARA-01	ARA-I Chemical Evaporation Pond	Institutional controls	Estimated baseline risks for this RI/FS site are (1) 2E-04 for the 100-year future residential scenario from exposure to arsenic and (2) ecological hazard quotients greater than 10 from exposure to selenium and thallium (Holdren et al. 1999).	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
ARA-02	ARA-I Sanitary Waste System-	Institutional controls	The estimated baseline risks for this Track 2 site are 2E-03 for the 100-year future residential scenario and 1E-05 for current and future occupational scenarios from exposure to radionuclides in the seepage pit sludge (Holdren et al. 1999). Exposure to Aroclor-1242 also poses toxicological hazards to future residents.	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated sludge is removed to basalt or if contaminant concentrations are comparable to local background values for soil. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
ARA-03	ARA-I Lead Sheeting Pad near ARA-627	Institutional controls	The estimated baseline risk for this Track 2 site is 2E-05 for the 100-year future residential scenario from exposure to Cs-137 (Holdren et al. 1999).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
ARA-04	ARA-I Sewage Treatment Facility (ARA-737)	No action	This no action site contains no hazardous substances[c] or radiological contamination (Hover 1992a).	None
ARA-05	ARA-I Evaporation Pond to the Northeast (ARA-744)	No action	This Track 1 site contains no hazardous substances or radiological contamination (EG&G 1994b; DOE-ID 1996b).	None
ARA-06	ARA-II Stationary Low-Power Reactor No. 1 Burial Ground	Institutional controls	This RI/FS site (originally identified as a Track 2 site) is a low-level radioactive waste landfill with an estimated baseline risk of 1E-01 for the 100-year future residential scenario from exposure to radiologically contaminated soil and waste, diminishing to 1E-04 in approximately 400 years (Holdren, Filemyr, and Vetter 1995). Implemented remedial action includes an engineered barrier (DOE-ID 1996b).	Maintain land-use controls to inhibit intrusion into the buried waste. Surface contamination will be addressed by the remediation of ARA-23. Institutional controls will be maintained until discontinued based on the results of a 5—year review. Recommendations for appropriate land-use restrictions will accompany any land transfer.

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
ARA-07	ARA-II Seepage Pit to East (ARA-720A)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992b).	Unrelated surface contamination will be addressed by the remediation of ARA-23. The septic tank will be removed or filled with earthen materials and abandoned in place in accordance with State of Idaho standards (IDAPA 16.01.03.007.23).
ARA-08	ARA-II Seepage Pit to West (ARA-720B)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992c).	Unrelated surface contamination will be addressed by the remediation of ARA-23. The septic tank will be removed or filled with earthen materials and abandoned in place in accordance with State of Idaho standards (IDAPA 16.01.03.007.23).
ARA-09	ARA-II Septic Tank (ARA-738)	No action	This no action site contains no hazardous substances or radiological contamination (Hover 1992d). The tank was removed.	Unrelated surface contamination will be addressed by the remediation of ARA-23.
ARA-10	ARA-II Septic Tank East (ARA-613)	No action	This no action site contains no hazardous substances or radiological contamination (Hover 1992e). The tank was removed.	Unrelated surface contamination will be addressed by the remediation of ARA-23.
ARA-11	ARA-II Septic Tank West (ARA-606)	No action	This no action site contains no hazardous substances or radiological contamination (Hover 1992f). The tank was removed.	Unrelated surface contamination will be addressed by the remediation of ARA-23.
ARA-12	ARA-III Radioactive Waste Leach Pond	Institutional controls	Estimated baseline risks for this Track 2 site are (1) 1E-03 for the current occupational scenario from exposure to Ag-108m and Co-60 and (2) 2E-03 for the 100-year future residential scenario for exposure to Ag-108m. Ecological hazard quotients are greater than 10 from exposure to copper, mercury, and selenium (Holdren et al. 1999).	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
ARA-13	ARA-III Sanitary Sewer Leach Field and Septic Tank (ARA-740)	No action[d]	The estimated risk for this Track 1 site is less than 1E-06 (EG&G 1993b; DOE-ID 1996b).	The septic tank will be removed or filled with earthen materials and abandoned in place in accordance with State of Idaho standards (IDAPA 16.01.03.007.23).

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
ARA-14	ARA-III Septic Tank and Drainfield (ARA-739)	No action	This no action site contains no hazardous substances or radiological contamination (Hover 1992g). The tank was removed.	None. The contents removed from the septic tank are not classified as hazardous waste and are under the control of the federal Inspector General. The waste will eventually be addressed under RCRA and is not relevant to CERCLA decisions for WAG 5.
ARA-15	ARA-III Radionuclide Tank (ARA-735)	No action	The tank was removed from this Track 1 site and no evidence of leakage was observed. Surveys confirmed that no radiological contamination is present (LMITCO 1994a).	None
ARA-16	ARA-I Radionuclide Tank	Institutional controls	Estimated baseline risks for this Track 1 site are (1) 4E-04 for the current occupational scenario for exposure to Cs-137 and (2) 1E-04 for the 100-year future residential scenario from exposure to Cs-137 in soil. In addition, the tank contains mixed waste that has not been released to the environment (Holdren et al. 1999).	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
ARA-17	ARA-I Drain (ARA-626)	No action[d]	This Track 1 site contains no hazardous substances or radiological contamination (EG&G 1993d; DOE-ID 1996b).	None
ARA-18	ARA-III Radionuclide Tank (ARA-736)	No action	The tank was removed from this Track 1 site and no evidence of leakage was observed. Surveys confirmed that no radiological contamination is present (LMITCO 1994b).	None
ARA-19	ARA-II Detention Tank for Fuel Oil/Radionuclides (ARA-719)	No action	The tank was removed from this Track 1 site and no evidence of leakage was observed (EG&G 1993g).	Unrelated surface contamination will be addressed by the remediation of ARA-23.
ARA-20	ARA-IV Test Area Contaminated Leach Pit No. 1	No action	This Track 2 site was decontaminated and dismantled in 1983. The pit structure, except for a ring at a depth of 18 ft, was removed. Post-removal samples showed no contamination (Pickett et al. 1994).	None
ARA-21	ARA-IV Test Area Septic Tank and Leach Pit No. 2	No action[d]	No evidence of contamination was found in 1987 during decontamination and dismantlement at this no action site (Hover 1992h).	The tank will be removed or filled with earthen materials and abandoned in-place in accordance with State of Idaho standards (IDAPA 16.01.03.007.23).

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
ARA-22	ARA-IV Control Area Septic Tank and Leach Pit No. 3 (ARA-617)	No action[d]	No evidence of contamination was found in 1987 during decontamination and dismantlement at this no action site (Hover 1992i).	The tank is still in use. Future assessment and closure will be managed by Central Facilities Area Operations.
ARA-23	ARA-II Radiologically Contaminated Surface Soils Around ARA-I and ARA-II	Institutional controls	Estimated baseline risks for this Track 1 site are (1) 2E-04 for the current occupational scenario from exposure to Cs-137 and (2) 5E-04 for the 100-year future residential scenario from external exposure to Cs-137 (Holdren et al. 1999).	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
ARA-24	ARA-III Windblown Soil	Institutional controls[d]	Estimated baseline risks for this Track 1 site are less than 1E–06 for all scenarios (Holdren et al. 1999). However, a contaminated pipeline embedded in concrete 20 ft belowgrade remains.	Land use will be restricted to prohibit potential exposure to radiologically contaminated material. Institutional controls will be maintained until discontinued based on the results of a 5-year review. Recommendations for appropriate land-use restrictions will accompany any land transfer.
ARA-25	ARA-I Soils Beneath the ARA-626 Hot Cells	Institutional controls	Estimated baseline risks are (1) 5E-03 for the current occupational scenario from exposure to radionuclides and arsenic and (2) 8E-03 for the 100-year future residential scenario from exposure to radionuclides and arsenic. Ecological hazard quotients are greater than 10 from exposure to copper and lead (Holdren et al. 1999). This site was identified during the development of the WAG 5 comprehensive RI/FS and was not assigned a site classification (e.g., as a Track 1 or Track 2 site).	Restrict the site to industrial land use until remediation is implemented as prescribed in this ROD, then reevaluate requirements. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values. Otherwise, institutional controls will be maintained until discontinued based on the results of a 5-year review.
PBF-01	PBF Control Area Septic Tank (PBF-724) and Seepage Pit (PBF-735)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992j).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-02	PBF Control Area Septic Tanks (PBF-728 and PBF-739) and Seepage Pit (PBF-736)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992k).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-03	PBF Control Area Septic Tank for PBF-632 and Seepage Pits (PBF-745 and PBF-748)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992l).	The system is still in use. Future assessment and closure will be managed by PBF Operations.

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
PBF-04	PBF Control Area Oil Tank at PBF-608 (Substation) Outside PBF Fence	No action	The tank and some soil were removed, with some contaminated soil left in place (EG&G 1994a). The estimated baseline risk for this Track 1 site using data collected for PBF-31 and PBF-32 is less than 1E-06, and modeled groundwater concentrations are less than risk-based concentrations (Holdren et al. 1999).	None
PBF-05	PBF Reactor Area Warm Waste Injection Well (PBF-301)	No action[d]	Residual contamination in the vadose zone may be present at an approximate depth of 33.5 m (110 ft), but modeled groundwater concentrations for this Track 2 site are below maximum contaminant levels (Rohe, Sondrup, and Whitaker 1996).	None. The well has been abandoned in place.
PBF-06	PBF Reactor Area Blowdown Pit for Reactor Boiler by PBF-621	No action[d]	This Track 1 site contains no hazardous substances or radiological contamination (EG&G 1993e; DOE-ID 1996b)	The pit is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-07	PBF Reactor Area Oil Drum Storage (PER-T13)	No action	This Track 1 site contains no hazardous substances or radiological contamination (EG&G 1993f; DOE-ID 1996b)	None
PBF-08	PBF Reactor Area Corrosive Waste Disposal Sump Brine Tank	No action[d]	Remedial action for this interim action site was selected (DOE-ID 1992b) and implemented successfully (Parsons 1995) to remove chromium and Cs-137 contamination.	The sump is still in use, and procedures are in place to minimize the likelihood of additional contamination. Future assessment and closure will be managed by PBF Operations.
PBF-09	PBF Reactor Area Septic Tank and Drainfield (PBF-728)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992m).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-10	PBF Reactor Area Evaporation Pond (PBF-733)	Institutional controls	Remedial action for this interim action site was selected (DOE-ID 1992b) and implemented successfully (Parsons 1995) to remove chromium and Cs-137 contamination. The post-remediation estimated baseline risk is 2E-05 for the 100-year future residential scenario from exposure to Cs-137 (Holdren et al. 1999).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
PBF-11	PBF SPERT-I Seepage Pit (PBF-750)	No action[d]	The hazard index is much less than 1 and this Track 2 site contains no carcinogenic contaminants (Hillman-Mason et al. 1994).	None

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
PBF-12	PBF SPERT-1 Leach Pond	Institutional controls	Risk evaluation for this Track 1 site identified no current occupational risk and a 100-year future residential risk of 2E-05 from exposure to Cs-137 (EG&G 1993h; Holdren et al. 1999).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
PBF-13	PBF Reactor Area Rubble Pit	Institutional controls	Risk evaluation for this Track 1 site identified no unacceptable risk (EG&G 1993k; DOE-ID 1996b), but the site contains construction waste, possibly friable asbestos. The visible asbestos was removed, and the site was covered with a 3-m (10-ft) -thick layer of soil and riprap.	Control land use to prohibit potential exposure to friable asbestos. Augment the existing institutional controls with signs and maintenance of the existing cover. Periodic inspections also will be defined in the WAG 5 institutional control plan. Institutional controls will be maintained until discontinued based on the results of a 5-year review. Recommendations for appropriate land-use restrictions will accompany any land transfer.
PBF-14	PBF SPERT-II Inactive Fuel Oil Tank (Front of PBF-612)	No action[d]	The tank was abandoned in place. No evidence of leakage or contamination was observed, and this Track 1 site was assessed as free of significant hazardous or radiological contamination (EG&G 1993a)	None
PBF-15	PBF Reactor Area Corrosive Waste Injection Well (PBF-302)	No action[d]	Residual contamination in the vadose zone may be present at a depth of 35 m (116 ft), but modeled groundwater concentrations for this Track 2 site are below maximum contaminant levels (Rohe, Sondrup, and Whitaker 1996).	None. The well has been abandoned in place.
PBF-16	SPERT II Leach Pond	No action	Estimated human health risk estimates for this Track 2 site are below 1E–06, but ecological hazard quotients for mercury are greater than 10 (Holdren et al. 1999).	Institutional controls are not applicable to ecological concern sites. Because the site will be remediated to address ecological risk, the no action status will apply after remediation is complete.
PBF-17	PBF SPERT-II Septic Tank and Seepage Pit (PBF-725)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992n).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-19	PBF SPERT-III Inactive Fuel Oil Tank (West Side of the Waste Experimental Reduction Facility)	No action	Estimated risks for this Track 1 site are below 1E-06. The tank was probably removed in 1986, but the subsequent use of the area for outside storage precluded confirmation. The area is covered by pavement and cargo containers (EG&G 1993c).	None
PBF-20	PBF SPERT-III Small Leach Pond	No action[d]	Estimated risks for this Track 2 site are below 1E-06. The site was used for disposal of sodium hydroxide and sulfuric acid (Hillman-Mason et al. 1994).	None

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
PBF-21	PBF SPERT-III Large Leach Pond	Institutional controls	Estimated risks for this Track 1 site are below 1E-06 for the current occupational scenario and are 1E-05 for the 100-year future residential scenario from exposure to radionuclides. The contamination is covered by an 8-ft-thick layer of soil (EG&G 1994c).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
PBF-22	PBF SPERT-IV Leach Pond (PBF-758)	Institutional controls	Estimated risks for this Track 2 site are (1) 9E-06 for exposure to Cs-137 for the current occupational scenario and (2) 3E-06 for exposure to Cs-137 for the 100-year future residential scenario (Holdren et al. 1999).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
PBF-24	PBF SPERT-IV Blowdown Pit (Adjacent to PBF-716)	No action	This Track 1 site contains no hazardous substances or radiological contamination (EG&G 1993i).	None
PBF-25	PBF SPERT-IV Septic Tank and Leach Pit (PBF-727 and PBF-757)	No action[d]	This no action site contains no hazardous substances or radiological contamination (Hover 1992o).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-26	PBF SPERT-IV Lake	Institutional controls	Estimated baseline risks for this Track 1 site are (1) 7E-05 for the current occupational scenario from exposure to radionuclides and (2) 6E-05 for the 100-year future residential scenario from exposure to radionuclides (Holdren et al. 1999).	Restrict the site to industrial land use until discontinued based on the results of a 5-year review.
PBF-27	PBF SPERT-III Septic Tank (PBF-726) and Seepage Pit	No action[d]	No evidence indicates that contamination is present at this no action site (Hover 1992p).	The system is still in use. Future assessment and closure will be managed by PBF Operations.
PBF-28	PBF Reactor Area Cooling Tower Area and Drainage Ditch	No action[d]	Estimated risks are below 1E-06 for this Track 1 site (EG&G 1993j; DOE-ID 1996b).	None
PBF-29	PBF Reactor Area Abandoned Fuel Oil Tank	No action	The tank was removed from this no action site. No evidence of contamination was observed (Holdren et al. 1999).	None
PBF-30	PBF Reactor Area Abandoned Septic system	No action[d]	The tank was abandoned in place at this Track 1 site. No evidence of contamination was observed (Pollitt 1998).	None

Table 32. (continued).

Site Code[a]	Site Name	No Action[b] or Institutional Controls[c]	Basis for No Action or Institutional Controls	Preliminary Recommendation
PBF-31	SPERT-II Fuel II tank (PBF-742)	No action	The tank and some contaminated soil were removed from this Track 1 site. Modeled groundwater concentrations for residual contamination in vadose zone basalt are below risk-based concentrations for groundwater (Pollitt 1998; Holdren et al 1999).	None
PBF-32	PBF Control Area Fuel Oil Tank (PBF-742)	No action	The tank and some contaminated soil were removed from this Track 1 site. Modeled groundwater concentrations for residual contamination in vadose zone basalt are below risk-based concentrations for groundwater (Pollitt 1998; Holdren et al 1999).	None

a. The site codes PBF-18 and PBF-23 were not assigned.

b. Unrestricted land use can be allowed for no action sites, and 5-year reviews are not required.

c. Unless specified otherwise, land use will be restricted at each institutional control site until discontinued based on the results of a 5-year review. According to DOE land-use projections (DOE-ID 1996a), DOE control is anticipated for at least 100 years.

d. The identification of the site as a no action site or a site requiring institutional controls was revised from the classification presented in the WAG 5 Proposed Plan (DOE-ID 1999b, Tables 16 and 17).

e. Hazardous substances and radiological contamination are both mentioned specifically because the Resource Conservation and Liability Act (42 USC 6901 et seq.), which identifies and classifies hazardous contaminants, does not address radioactivity. Both chemical and radiological contaminants can be addressed under the Comprehensive Environmental Response, Compensation, and Liability Act (42 USC 9601 et seq.).

Table 33. Institutional control requirements for Waste Area Group 5.

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Site ARA-06, ARA-II Stationary Low-Power Reactor No. 1 (SL-1) Burial Ground The site is a low-level waste landfill containing radiologically contaminated debris and soil from the cleanup of the SL-1 accident. An engineered barrier was constructed over the site. Total risk for the residential scenario is projected to diminish to 1E-04 in approximately 400 years.					
Current DOE operations	Landfill—no unauthorized intrusion into capped area	Radionuclides—exposure to subsurface soil and buried waste	Maintain integrity of containment barrier	1. Visible access restrictions (warning signs) 2. Control of activities (drilling or excavating) 3. Publication of surveyed boundaries and descriptions of controls in the INEEL Land Use Plan (DOE-ID 1996a)	*Federal Facility Agreement and Consent Order* (FFA/CO) (DOE-ID 1991) Worker protection (10 CFR 835) Radiation protection of the public and as low as reasonably achievable principles (DOE Order 5400.5) National Oil and Hazardous Substances Pollution Control Plan (40 CFR Part 300) CERCLA [42 USC 9620 § 120(h)]
DOE control post operations (i.e., after operations cease and before DOE institutional controls are terminated)	Landfill—no unauthorized intrusion into capped area	Radionuclides—exposure to subsurface soil and buried waste	Maintain integrity of containment barrier	1. Visible access restrictions (warning signs) 2. Control of activities (drilling or excavating) 3. Property lease requirements including control of land use consistent with the WAG 5 ROD 4. Notice to affected stakeholders (e.g., Bureau of Land Management, Sho-Ban Tribal Council, local county governments, IDHW, and the EPA) for any change in land-use designation, restriction, or land users	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(5)][b] Hall Amendment of the National Defense Authorization Act[c] (Public Law 103–160) Property release restrictions (DOE Order 5400.5)

Table 33. (continued).

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Post DOE control	Landfill—no unauthorized intrusion into capped area	Radionuclides—exposure to subsurface soil and buried waste	Maintain integrity of containment barrier	1. Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the WAG 5 ROD 2. Notice to affected stakeholders (e.g., Bureau of Land Management, Sho-Ban Tribal Council, local county governments, IDHW, and the EPA) for any change in land-use designation, restriction, or land users	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(3)][d] CERCLA [42 USC 9620 § 120(h)(3)(C)(ii)][e] CERCLA [42 USC 9620 § 120(h)(3)(A)(iii)][f] CERCLA [42 USC 9620 § 120(h)(1)-(3)][g] CERCLA [42 USC 9620 § 120(h)(4)][h] Property relinquishment notification (43 CFR 2372.1)[i] Criteria for Bureau of Land Management (BLM) acceptance of property 43 CFR 2374.2[j] Excess property reporting requirements (41 CFR 101-47.202-1,-2,-7)[k] Property release restrictions (DOE Order 5400.5)
Sites ARA-01, ARA-12, ARA-16, ARA-23, and ARA-25 Current occupational scenario risk estimates are greater than 1E-04. Interim controls will be maintained to protect workers until the selected remedies have been implemented.					
Current DOE operations until remedial action is implemented	Industrial	Radionuclides—external radiation	Prevent exposure to contaminated soil, except for approved activities pursuant to the FFA/CO (DOE-ID 1991).	1. Visible access restrictions (warning signs) 2. Control of activities (drilling or excavating)	FFA/CO (DOE-ID 1991) Worker protection (10 CFR 835) Radiation protection of the public and as low as reasonably achievable principles (DOE Order 5400.5) National Oil and Hazardous Substances Pollution Control Plan (40 CFR Part 300) CERCLA [42 USC 9620 § 120(h)]

Table 33. (continued).

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Sites ARA-01, ARA-02, ARA-12, ARA-16, ARA-23, and ARA-25 Future residential risk may be greater than 1E-06 after the selected remedies have been implemented because remediation goals are based on the 100-year future residential scenario. Land-use restrictions will be maintained until discontinued based on the results of a 5-year review. Land-use controls will not be required after remediation if all contaminated soil is removed to basalt or if contaminant concentrations are comparable to local background values.					
DOE control post operations (i.e., after operations cease and before DOE institutional controls are terminated)	Industrial	Radionuclides (and arsenic for ARA-25)—minimal concern	Control land use as industrial until discontinued based on the results of a 5-year review.	Property lease requirements including control of land use consistent with the WAG 5 ROD	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(5)][b] Hall Amendment of the National Defense Authorization Act (Public Law 103–160)[c] Property release restrictions (DOE Order 5400.5)
Post DOE control	Industrial	Radionuclides—minimal concern	Control land use as industrial until discontinued based on the results of a 5-year review.	Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the WAG 5 ROD	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(3)][d] CERCLA [42 USC 9620 § 120(h)(3)(C)(ii)][e] CERCLA [42 USC 9620 § 120(h)(3)(A)(iii)][f] CERCLA [42 USC 9620 § 120(h)(1)-(3)][g] CERCLA [42 USC 9620 § 120(h)(4)][h] Property relinquishment notification (43 CFR 2372.1)[i] Criterion for BLM acceptance of property (43 CFR 2374.2)[j] Excess property reporting requirements (41 CFR 101-47.202-1,-2,-7)[k] Property release restrictions (DOE Order 5400.5)

Table 33. (continued).

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Sites ARA-03, PBF –10, PBF –12, PBF –21, PBF –22, and PBF –26 Risk estimates for the 100-year future residential scenario are between 1E-06 and 1E-04. Institutional controls will be maintained until discontinued based on the results of a 5-year review.					
DOE control post operations (i.e., after operations cease and before DOE institutional controls are terminated)	Industrial	Various—minimal concern	Control land use as industrial until discontinued based on the results of a 5-year review.	Property lease requirements including control of land use consistent with the WAG 5 ROD	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(5)][b] Hall Amendment of the National Defense Authorization Act (Public Law 103–160)[c] Property release restrictions (DOE Order 5400.5)
Post DOE control	Residential	Various—minimal concern	Control land use as industrial until discontinued based on the results of a 5-year review.	Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the WAG 5 ROD	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(3)][d] CERCLA [42 USC 9620 § 120(h) (3)(C)(ii)][e] CERCLA [42 USC 9620 § 120(h)(3)(A)(iii)][f] CERCLA [42 USC 9620 § 120(h)(1)-(3)][g] CERCLA [42 USC 9620 § 120(h)(4)][h] Property relinquishment notification (43 CFR 2372.1)[i] Criterion for BLM acceptance of property (43 CFR 2374.2)[j] Excess property reporting requirements (41 CFR 101-47.202-1,-2,-7)[k] Property release restrictions (DOE Order 5400.5)

Table 33. (continued).

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Sites ARA-24 and PBF-13 Buried contaminated media remain at these two sites. At ARA-24, a radiologically contaminated pipe is present at a depth of 20 ft below the surface. At PBF-13, friable asbestos may be present.					
Current DOE operations	Industrial	Potential friable asbestos	Control land use as industrial	1. Visible access restrictions (warning signs) 2. Control of activities (drilling or excavating) 3. Publication of surveyed boundaries and descriptions of controls in the INEEL Land Use Plan (DOE-ID 1996a)	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(5)][b] Hall Amendment of the National Defense Authorization Act (Public Law 103–160)[c] Property release restrictions (DOE Order 5400.5)
DOE control post operations (i.e., after operations cease and before DOE institutional controls are terminated)	Industrial	Potential friable asbestos	Ensure that land use is appropriate	1. Visible access restrictions (warning signs) 2. Control of activities (drilling or excavating) 3. Property lease requirements including control of land use consistent with the WAG 5 ROD	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(5)][b] Hall Amendment of the National Defense Authorization Act (Public Law 103–160)[c] Property release restrictions (DOE Order 5400.5)

Table 33. (continued).

Timeframe	Land Restriction[a]	Exposure Concern	Objective	Controls	Regulatory Basis or Authority
Post DOE control	Residential	Potential friable asbestos	Ensure land use is appropriate	Property transfer requirements including issuance of a finding of suitability to transfer and control of land use consistent with the WAG 5 ROD.	FFA/CO (DOE-ID 1991) CERCLA [42 USC 9620 § 120(h)(3)[d]] CERCLA [42 USC 9620 § 120(h)(3)(C)(ii)][e] CERCLA [42 USC 9620 § 120(h) (3)(A)(iii)][f] CERCLA [42 USC 9620 § 120(h)(1)-(3)][g] CERCLA [42 USC 9620 § 120(h)(4)][h] Property relinquishment notification (43 CFR 2372.1)[i] Criterion for BLM acceptance of property (43 CFR 2374.2)[j] Excess property reporting requirements (41 CFR 101-47.202-1,-2,-7)[k] Property release restrictions (DOE Order 5400.5)

a. Institutional controls are applicable only to sites where hazardous substances, pollutants, or contaminants are present that preclude unlimited land use. Surveillance will be conducted every 5 years to ensure that controls are in place.

b. Notification to states of leases involving contamination. Concurrence of U.S. Environmental Protection Agency is requested on leases of National Priorities List (54 FR 48184) sites.

d. A statement that remedial action is complete is required in the deed.

e. If response action for which the federal government is responsible is not complete, restrictions, the response guarantee, the schedule for investigation and completion of all necessary response actions, and budget assurances must be included in the deed.

f. A clause allowing the U.S. government access to the property must be included in the deed.

g. A notice of information about hazardous substances present on the property must be included in the deed.

h. Uncontaminated parcels of land must be identified with concurrence of the EPA administrator before termination of operations.

i. A Notice of Intent with contamination information and protection needs is required to relinquish the property to the U.S. Department of Interior.

j. Transfer to the U.S. Department of Interior must indicate continuation of DOE responsibility.

k. Report to the General Services Administration on contamination information and allowable land use for excess real property.

Table 34. Cost estimate summary for Waste Area Group 5 institutional controls.

Planned Activity	Cost (Fiscal Year 1998 dollars)
FFA/CO management and oversight	
WAG 5 management	NA
Remedial design	NA
Remedial action—construction subcontract	NA
Project construction management	NA
CAPITAL COST SUBTOTAL	NA
TOTAL CAPITAL COST IN FISCAL YEAR 1998 DOLLARS	NA
TOTAL CAPITAL COST IN NET PRESENT VALUE	NA
Operations	
Program management	NA
Data collection and management for WAG-wide 5-year reviews (100 years)	3,243,000
Caretaker/maintenance	755,000
Maintenance	NA
Decontamination and dismantlement	NA
Surveillance	NA
OPERATIONS AND MAINTENANCE COST SUBTOTAL	3,998,000
Contingency @ 30%	1,199,000
TOTAL OPERATIONS AND MAINTENANCE COST IN FISCAL YEAR 1998 DOLLARS	5,197,000
TOTAL OPERATIONS AND MAINTENANCE COST IN NET PRESENT VALUE	2,310,000
TOTAL PROJECT COST IN NET PRESENT VALUE	2,310,000

implemented at each site. The list of sites requiring institutional controls will change over time as remediation is completed and 5-year reviews are conducted.

11.2 Institutional Control Plan for Waste Area Group 5

A comprehensive approach for establishing, implementing, enforcing, and monitoring institutional controls will be developed in accordance with EPA Region 10 policy (EPA 1999b). The following elements for the WAG 5 institutional control plan will be developed in the RD/RA phase and will involve procedures for controlling activities as outlined in the policy:

- A comprehensive listing of all areas or locations in WAG 5 that have or will have institutional controls for protection of human health or the environment. The list will include sites within WAG 5 covered by any and all decision documents. The information in this list will include, at a minimum, the location of the area, the objectives of the restriction or control, the timeframe for which the restrictions apply, and the tools and procedures that will be applied to implement the restrictions or controls and to evaluate the effectiveness of these restrictions or controls.

- Identification, made legally binding where appropriate, of all entities and persons, including but not limited to, employees, contractors, lessees, agents, licensees, and invitees relevant to WAG 5 institutional controls.

- Identification of all activities, and reasonably anticipated future activities, including but not limited to, future soil disturbance, routine and nonroutine utility work, well placement and drilling, grazing activities, groundwater withdrawals, paving, construction, renovation work on structures, or other activities that could occur on CERCLA sites with institutional controls.

- A tracking mechanism that identifies all land areas under restriction or control.

- A process to promptly notify both the EPA and the State of Idaho before any anticipated change in land-use designation, restriction, land users, or activity for any institutional control required by a decision document.

In addition, the comprehensive WAG 5 approach will incorporate by reference the INEEL Land Use Plan (DOE-ID 1996a), installation maps, a comprehensive permitting system, and other installation policies and orders.

Within 6 months of the signature of this ROD, a report about monitoring the effectiveness of WAG 5 institutional controls will be submitted to the EPA and IDHW. An updated institutional control monitoring report based on the results of an onsite inspection will be submitted to the EPA and IDHW at least annually thereafter until the first 5-year review. The deadline for the initial and subsequent monitoring reports may be modified, subject to approval by the EPA and IDHW, to accommodate the submittal of one monitoring report for all operable units and all institutional controls at WAG 5, and possibly one or more monitoring reports for all INEEL waste area groups, and thereby allow integration of different decision document signature dates. In addition, after the INEEL comprehensive approach is well established and its effectiveness has been demonstrated, the frequency of future monitoring reports may be modified, subject to approval by the EPA and IDHW. At a minimum, the institutional controls monitoring report will contain the following components:

- A description of the means employed to meet WAG 5 institutional control requirements

- A description of the means employed to meet waste site-specific objectives, including the results of visual field inspections of all areas subject to waste site-specific restrictions

- An evaluation of the effectiveness of the approach at meeting all WAG-wide institutional control requirements and waste site-specific objectives

- A description of any deficiencies of the approach and the efforts or measures that have been or will be taken to correct problems.

The DOE will notify the EPA and IDHW immediately upon the discovery of any activity that is inconsistent with institutional control objectives or of any change in the land use or land-use designation of a site addressed in the WAG 5 list of areas or locations covered by institutional controls. The DOE will work together with the EPA and IDHW to determine a plan of action to rectify the situation, except when DOE believes that an activity creates an emergency situation. The DOE can respond to the emergency immediately upon notification to the EPA and IDHW and need not wait for the EPA or IDHW input to determine a plan of action. The DOE will identify the problems with the institutional control

process, determine the changes necessary to correct the process to avoid future problems, and implement these changes after consulting with the EPA and IDHW.

The DOE will identify a point of contact for implementing, maintaining, and monitoring institutional controls.

The DOE will notify EPA and IDHW at least 6 months before the transfer, sale, or lease of any property subject to institutional controls required by a decision document. Such notification will allow the involvement of the EPA and IDHW in discussions to ensure that appropriate provisions are included in the conveyance documents to maintain effective institutional controls. If it is not possible for DOE to notify the EPA and IDHW at least 6 months before the transfer, sale, or lease of any property subject to institutional controls, then DOE will notify the EPA and IDHW as soon as possible thereafter.

The DOE will not delete or terminate any institutional control unless the EPA and IDHW have concurred in the deletion or termination.